

Play a Tune

This program turns MiRo into a piano using the individual touch sensors.

```
Program Start
repeat while true
do
  set piano_keys to Body Touch sensors
  count with i from 1 to 14 by 1
  do
    set key to in list piano_keys get # i
    if key
    do
      Run code print "key ", i, "pressed"
      Play tone of i x 100 Hz for 0.5 seconds at volume 100
    end
    set key to false
  end
  Wait for 0.1 Seconds
```

The code is a Scratch script starting with a green flag click event. It begins with a 'repeat while true' loop. Inside the loop, it sets a variable 'piano_keys' to 'Body Touch sensors'. Then, it uses a 'count with i from 1 to 14 by 1' block to iterate through 14 touch sensors. For each sensor, it checks if it is pressed by using 'set key to in list piano_keys get # i'. If the key is pressed, it runs a code block that prints the key number and plays a tone of frequency 'i x 100' Hz for 0.5 seconds at volume 100. After the loop, it sets 'key' to false and waits for 0.1 seconds before repeating the loop.

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This program turns MiRo into a piano using the individual touch sensors.

BEST WAY TO DEMONSTRATE

Simulator: *Good*

Robot: *Very effective*

SENSORS & OUTPUTS USED

Body touch sensors and speakers

DESCRIPTION

This demonstration program works excellently on the physical robot by assigning a different tone output to each body sensor. This effectively turns MiRo into a piano with the sensors being the keys. You can now use MiRo to compose a range of melodies!

EXTENSIONS

- 🐙 Compose a tune or replicate another song.
- 🐙 Produce a dance that MiRo can move along with to a tune. This can involve MiRo's body, head or ears moving to the song.